

Headquarters U.S. Air Force

Integrity - Service - Excellence

Update Live-Virtual-Constructive Integrating Architecture (LVC - IA)



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AFAMS**

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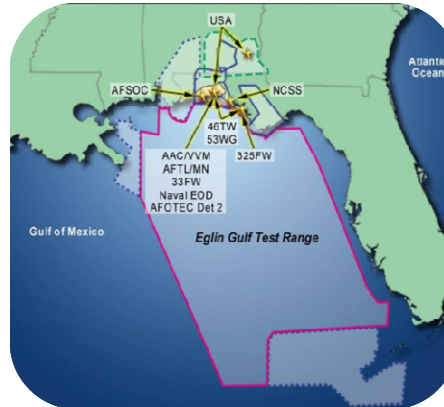
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Why is LVC needed for the USAF now?

Weapon System Capabilities



Range Capabilities / Limitations



Asset Availability



PERSTEMPO



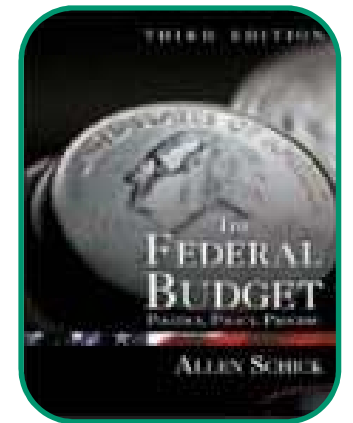
Aging Fleet



Fuel



Funding



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Establishing Terms of Reference

- ***Live, Virtual, and Constructive (LVC)***

“A broadly used taxonomy for classifying simulation types.” (DoD Pub 5000.59-P)

- ***LVC Enterprise***

The overall enterprise of resources within which LVC activities can take place.

- ***LVC Integrating Architecture (LVC-IA)***

The aggregate representation of the foundational elements of the LVC Enterprise (hardware, software, networks, databases and interfaces, policies, agreements, certifications/accreditations and business rules). LVC-IA is intrinsically an Enterprise Architecture, given the system-of-systems environment that it must support.

I n t e g r i t y - S e r v i c e - E x c e l l e n c e



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LVC – IA Enterprise Objectives

- **Develop way ahead to achieve USAF (Corporate) LVC interoperability**
- **Prepare the M&S Foundation response back to M&S Caucus**
 - **AI 08-01-02: Develop and Staff Live-Virtual-Constructive CONOPs white-papers specific to each thrust area, and develop a capstone white-paper to synchronize the thrust activities.**
- **LVC – IA Enterprise Initiative –**
 - **Allows for more efficient federation composition and re-use**
 - **Reduces / avoids duplication of efforts / costs**
 - **Is responsive to evolving requirements**
 - **Maintains or increases innovation**
 - **Maximizes the network effect**
 - **Maximizes use of resources, time, people and money**

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USAF LVC - IA *Precepts*

- ***Fundamental Precept #1: Do No Harm***
 - USAF should NOT discontinue any of the existing simulation architectures.

- ***Fundamental Precept #2: Interoperability is NOT Free***
 - USAF must make the necessary investments - It is not reasonable to expect that LVC interoperability goals can be met with little or no investment.

- ***Fundamental Precept #3: It All Starts with Small, Immediate Steps***
 - USAF should take immediate action to improve interoperability among existing simulation architectures.

- ***Fundamental Precept #4: Centralized Oversight Management***
 - AFAMS mission - provide oversight of LVC-IA resources & activities.
 - The ICD & AoA will determine if there is need for a LVC-IA program of record which might result in a Program Office.

I n t e g r i t y - S e r v i c e - E x c e l l e n c e



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USAF LVC – IA

5 Year Plan

USAF LVC Enterprise Integrating Architecture Plan (5 Year)

- Purpose - A Pervasive and Persistent USAF LVC-IA Enterprise
- USAF Wide Focus - Functional & Organizational Perspective
- USAF M&S Foundation Response Back to M&S Caucus

Status of the Document

- Initial coordination process completed
- Ready for formal coordination

LVC-IA Plan Comment Status – 23 January 09				
TOTAL	TYPE	Accept	Modify	Reject
10	Critical	3	7	0
56	Major	29	26	1
101	Substantive	58	37	6
105	Administrative	92	6	7
8	None	7	1	0
280	Total	189	76	14

LVC-IA Plan Comment Status – 11 February 09				
TOTAL	TYPE	Accept	Modify	Reject
7	Critical	3	3	1
18	Major	10	7	1
55	Substantive	33	22	0
20	Administrative	19	1	0
0	None	0	0	0
100	Total	65	33	2

M&S Caucus Decision – 20 February 2009

- Each MAJCOM & functional community was tasked to provide a single government POC to support the both the LVC IA Plan and ICD effort.
- Send 5 Year Plan out for formal coordination.

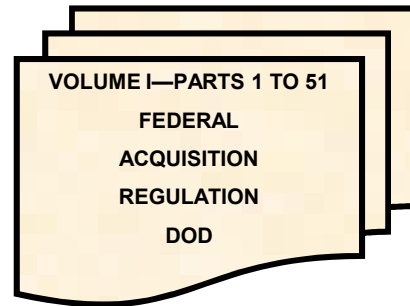
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USAF LVC – IA Plan Contains 5 Focus Areas



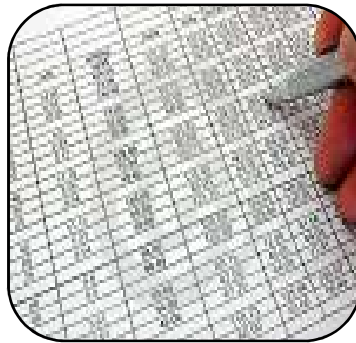
Technical



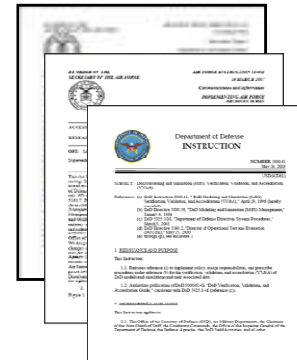
Non Technical



Funding



Metrics



Policy

While not a separate focus area - ensuring USAF leadership understands LVC–IA is critical

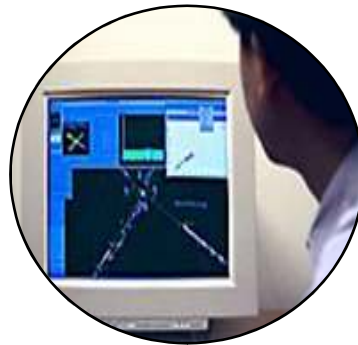
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USAF LVC – IA Technical



Software



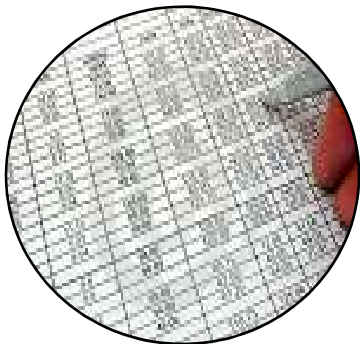
Hardware



Interfaces



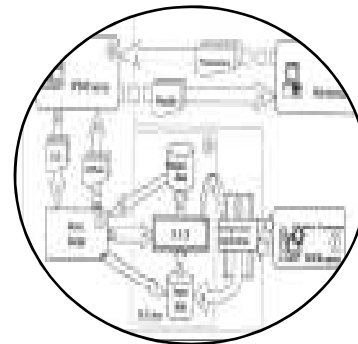
Communication



Databases



Standards



Architectures

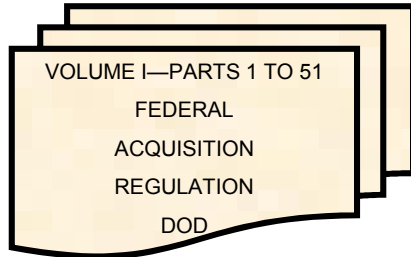


Tech Obsolescence

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USAF LVC – IA Non Technical



**Acquisition Processes
(Contractual Language)**



**Event Planning Processes
(DMOC/DTOC/Blue Flag, Etc.)**



**Requirements
Processes**



**Workforce Development /
Management**



Duplication of Efforts



**Not Knowing
What is Available**

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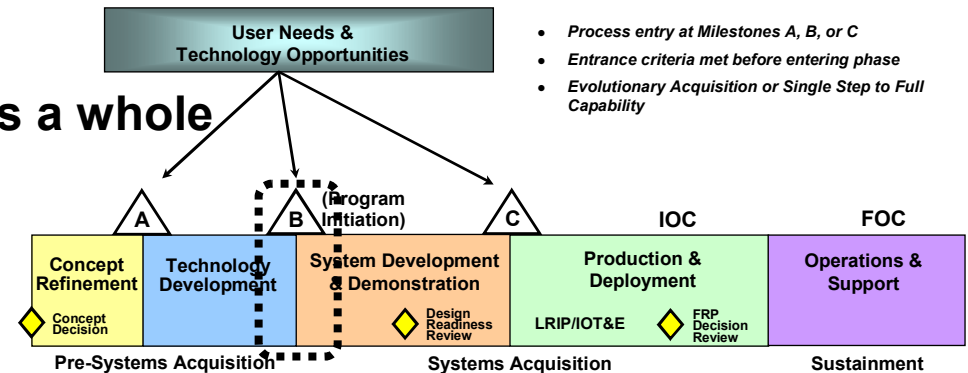


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USAF LVC – IA Funding

LVC-IA ICD:

- ICD – designed to look at USAF as a whole
 - Initial draft completed Sep 08
 - Modification of the ICD
 - Based on OAS input
 - Changes in JCIDS process
 - Currently executing supporting data collection
 - Data collection - functional & organizational perspective
 - Following Army approach – Milestone B start point



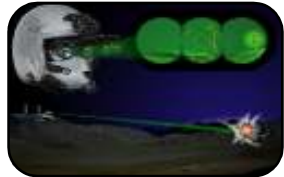
M&S Caucus Decision – 20 February 2009

- Each MAJCOM & functional community was tasked to provide a single government POC to support the both the LVC IA Plan and ICD effort.
- AFAMS will provide a follow up briefing on the LVC – IA ICD at the next Caucus to further define the scope and direction of the initiative.



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USAF LVC – IA Metrics



Efficiency



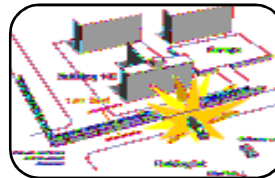
Reuse



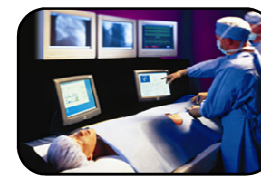
Money



Environment



Risk Reduction



Lives



Time

Return on Investment

Where is the proof of efficiency?

Where is the value of M&S to readiness?

Where is the cost-effectiveness data?

Are we pursuing technology for technology's sake?

How do I measure effectiveness of M&S for the various applications?



Readiness



Effectiveness

“The return on expenditure of taxpayer dollars is not being effectively tracked ...utilization rates at different sites are reported based on very different criteria, leading to decisions to activate new training sites based on non comparable information.” GAO Report 2006

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USAF LVC – IA Policy



M&S
Policy



Security
Policy



Acquisition
Policy



Network
Policy

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Questions

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